GATES LEARJET CORPORATION

maintenance manual

CHAPTER

9

TOWING & TAXIING



Chapter Section Subject	Page	Date
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TOWING - MAINTENANCE PRACTICES

1. General
 A. Towing of the aircraft is normally accomplished by utilizing a tow bar connected to the nose wheel.
 B. Towing and taxiing procedures are basically the same as those used for other aircraft equipped with tricycle landing gear.
 C. The aircraft can be towed or pushed backwards, on hard surfaces, using a tow bar attached to the nose wheel. The turning angle of the nose wheel with tow bar is 90°, either side of center. (Refer to figure 201 for turning radius.)

2. Tools and Equipment

NAME	NUMBER	MANUFACTURER	USE
Tow Bar Assembly (Hand)	2370100-1	Gates Learjet	Hand towing of aircraft.
Tow Bar Assembly (Vehicle)	2471006-1	Gates Learjet	Vehicle towing of aircraft.

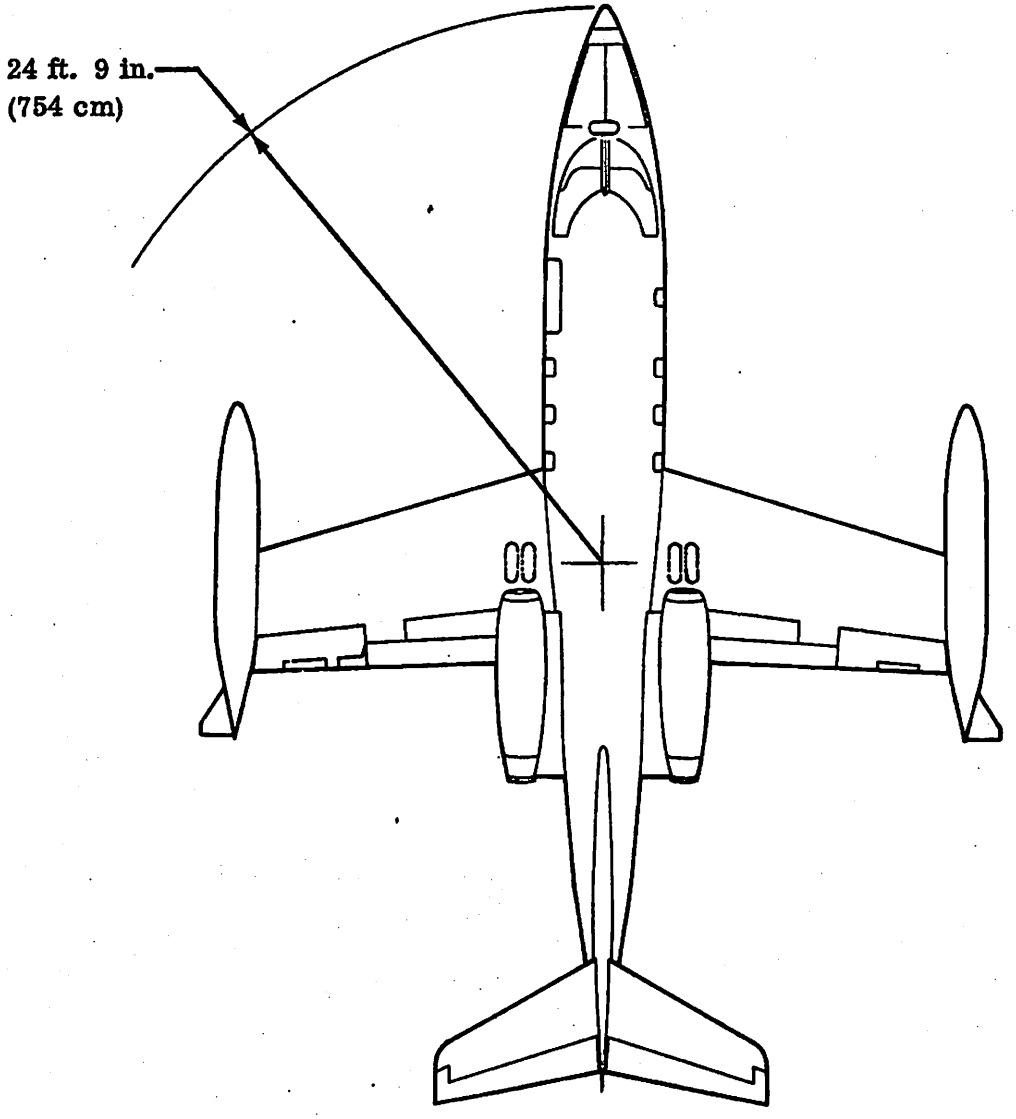
3. Towing
 A. Towing by Hand (See figures 201 and 202)

 CAUTION: SET THE BATTERY SWITCHES TO OFF WHILE TOWING OR STEERING ACTUATOR DAMAGE MAY RESULT.

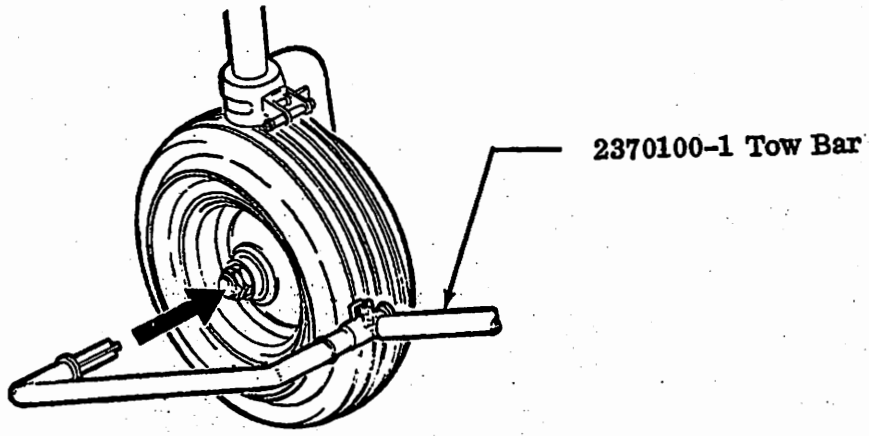
 (1) Attach hand tow bar in nose wheel axle.
 (2) Assure that wheel chocks and controls gust lock are removed, and ground cables are disconnected.
 (3) Release parking brake.
 (4) If areas are congested, station wing walkers to check clearance between aircraft and adjacent structure.
 (5) When towing operation is completed, turn nose wheel to center, engage parking brake, install controls gust lock, chock wheels and attach grounding cables.
 (6) Remove tow bar from aircraft.

 B. Nose Gear Towing with Vehicle (See figures 201 and 202)

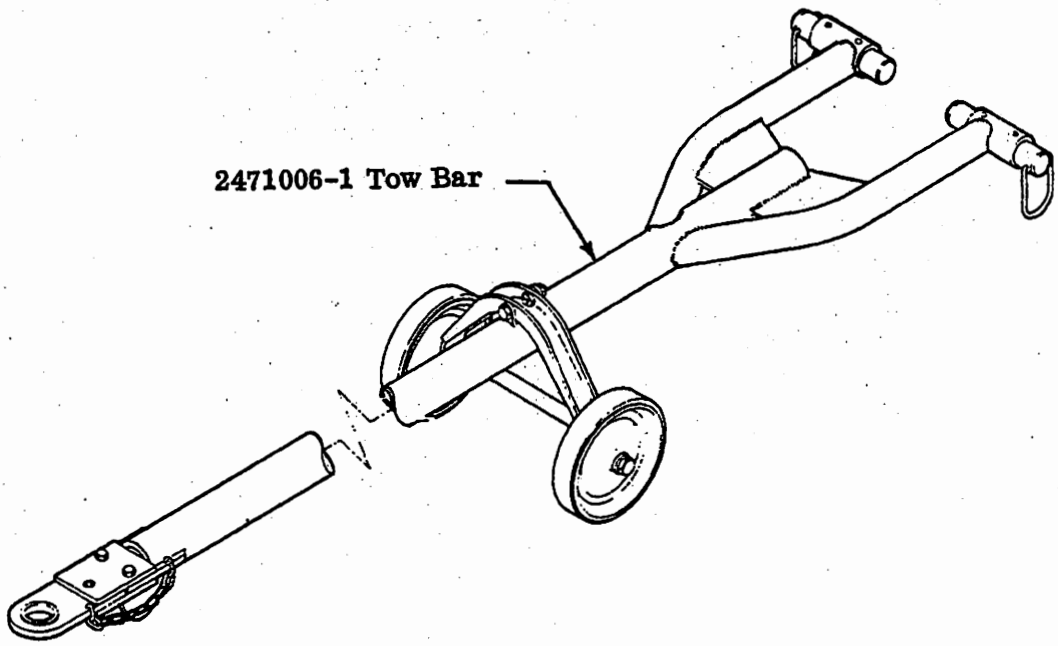
 CAUTION: WHEN PUSHING AIRCRAFT BACKWARD WITH A TOWING VEHICLE, PERFORM ALL BRAKING WITH THE TOWING VEHICLE. BRAKE APPLICATION WHILE THE AIRCRAFT IS BEING PUSHED BACKWARD, OTHER THAN BY HAND, MAY CAUSE DAMAGE TO THE BRAKE COMPONENTS. SET THE BATTERY SWITCHES TO OFF WHILE TOWING OR STEERING ACTUATOR DAMAGE MAY RESULT.



Tow Bar Turning Radius
Figure 201



HAND TOW BAR



VEHICLE TOW BAR

Tow Bar Installation
Figure 202

(1) Attach tow bar to nose wheel axle.
(2) Assure that wheel chocks and control gust lock are removed and grounding cables are disconnected.
(3) Connect tow bar to towing vehicle.
(4) Release parking brakes.
(5) In congested areas, station wing walkers to check clearance between aircraft and adjacent equipment.
(6) Tow aircraft, making smooth starts and stops.
(7) When towing operation is completed, turn nose wheel to center, engage parking brake, install control gust locks, chock wheels and attach grounding cables.
(8) Remove tow bar from aircraft.

C. Main Gear Towing

CAUTION: IF THE AIRCRAFT IS OFF THE RUNWAY AND HAS BECOME MIRED IN SOFT EARTH OR MUD, DO NOT ATTEMPT TO TOW THE AIRCRAFT BY THE NOSE WHEEL. THE FOLLOWING PROCEDURES SHOULD BE USED AS GENERAL GUIDE LINES.

(1) Inspect areas of aircraft structure as outlined in 5-00-00.
(2) Reduce the weight of the aircraft as much as possible.
(3) If landing gear is sunk deeply into the mud, a sloping path should be shoveled to the main gear wheels.
(4) Place large planks in the path against the wheels to provide a make-shift ramp.
(5) Position large ropes or belt straps on the main gear strut as low as possible to the drag of the wheels.
(6) Connect towing chain or cables to the ropes or belts. The towing chains or cables should be of sufficient length to allow the towing vehicle to be at least 50 to 100 feet from aircraft.

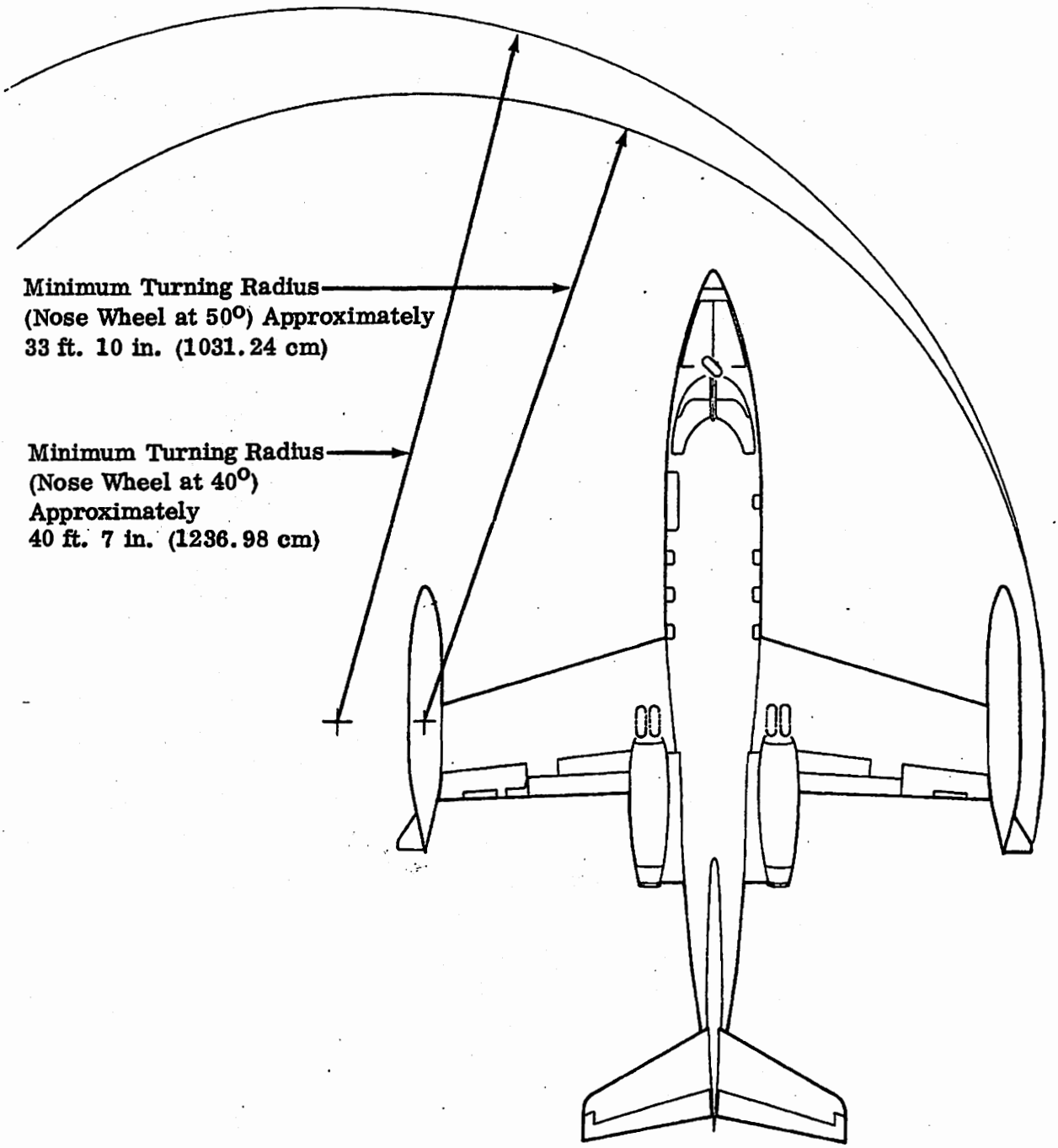
CAUTION: DO NOT LIFT OR PUSH ON CONTROL SURFACES.

(7) Position two persons at the nose and tail of the aircraft and at each tip tank. These persons will help push, lift and guide the aircraft onto the planks.
(8) Slowly increase tension on tow lines and with the aid of personnel, move the aircraft onto the planks.
(9) Slowly move the aircraft to the runway.

TAXIING - MAINTENANCE PRACTICES

1. General
 A. Taxiing procedures are generally the same as those used for other aircraft with tricycle landing gear.
 B. Taxiing requires two persons in the flight compartment, one to maneuver the aircraft and one to assist and act as an observer.
 C. For taxi operations, directional control is accomplished utilizing the nose wheel steering system. The minimum turning radius for the nose wheel steering system is 40° to 50° either side of center. (Refer to figure 201 for turning radius.)

2. Taxiing
 A. Taxiing Procedures
 (1) Station two persons in the flight compartment.
 (2) Clear area of personnel and equipment.
 (3) Disconnect grounding cables, remove wheel chocks, engine inlet and exhaust covers.
 (4) Start one engine. Refer to Airplane Flight Manual for engine starting procedure.
 (5) Release parking brake and start taxiing roll using only sufficient thrust to start roll.
 (6) After taxiing, set parking brake and shut down engine. Refer to Airplane Flight Manual for shutdown procedure.
 (7) Connect grounding cable and chock wheels.



Nose Steering Turning Radius
Figure 201